

**MINNESOTA TURF SEED COUNCIL  
NEWSLETTER  
May 9, 2023**

**PERENNIAL RYEGRASS GROWING DEGREE DAYS (GDD)**

Perennial ryegrass GDD's will be tracked in the 2023 growing season with comparisons to the previous six years. The accumulation of GDD's will begin after the snow has melted from the perennial ryegrass fields and continue through swathing. A base temperature of 32 degrees F is used for perennial ryegrass (T-Base = 32 F).

- Year to date GDD = 214 (Table 1)
- GDD last week (May 1-7) = 121; Long term average = 104
- GDD projected in next 10 days = 274 or 27.4/day (Table 1)
- Average GDD second week of May = 124 or 17.7/day
- The ten-day forecast suggests warmer than average temperature for the second week of May. Projected GDD is 27.4/day compared to the long-term average of 17.7/day.

Table 1. Growing Degree Days (GDD), March - May 2017 to March - May 2023 near Roseau MN.

Year	2023	2022	2021	2020	2019	2018	2017	2023 vs. 2022
March	0	0	131	30	0	0	90	0
April	93	95	236	183	211	184	458	-2
May1-7	121							
May		649	640	600	548	815	679	
Total		744	1,007	813	759	999	1,227	
*May 8-17	274							

\* Forecasted GDD at Roseau for the next 10 days.

**GENERAL CROP CONDITION**

Soil temperatures, in turf conditions, at the U of MN Magnusson Research Farm reached 40F last week. Ryegrass will begin to green up and produce tillers from the crown region. A soil temperature of 40F is a good indicator of the beginning of the growing season for cool season plants. In 2023, a 40F soil temperature occurred on April 28<sup>th</sup> in bare soil and May 1<sup>st</sup> in sod conditions (Table 2). In the ten-year period from 2013 to 2023, the range between bare soil and sod conditions was 1 day in 2016 and 23 days in 2021. In 2023, the difference in bare soil vs sod conditions was 3 days compared to 10.6 for the ten-year average.

Table 2. Calendar date of 40F soil temperature, at a four-inch depth, in black ground and sod conditions near Roseau in a ten-year period from 2013 to 2023.

	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
<b>Bare</b>	4-28	5-3	4-3	4-22	4-16	4-20	3-30	4-14	3-31	4-19	5-4
<b>Sod</b>	5-1	5-6	4-26	4-27	4-29	4-29	4-13	4-15	4-15	5-9	5-7
<b>Difference</b>	3	3	23	5	8	9	15	1	16	20	3

## **CROP MANAGEMENT**

Perennial ryegrass critical growth stages, based on GDD's in Minnesota growing conditions, are listed in Table 3. This data averaged over years, locations and planting dates of ryegrass fields grown in the environmental conditions near Roseau, MN. These ryegrass plant stages will be referenced in future newsletters and will serve as a benchmark to help in the scheduling various field operations and monitoring pest infestations throughout the growing season.

Table 3. The onset of perennial ryegrass growth stage as influenced by accumulated GDD, averaged over years, locations and planting dates near Roseau, MN.

<b><u>Plant Stage</u></b>	<b><u>GDD</u></b>
Greenup	100
Tillering	200
Early Jointing	700
Late Jointing	900
Early Heading	1,100
50% Heading	1,300
Pollen Shed	1,600
Swathing	2,700

As of May 7<sup>th</sup>, the year-to-date accumulation of GDD was 214. The new 10 day forecast projects 274 GDD by May 17<sup>th</sup> for a projected year-to-date GDD total of 488. Spring seeded ryegrass will be tillering stage for the next couple of weeks.

A review of spring fertility recommendations in ryegrass was in last week's newsletter. In a spring only nitrogen application program the nitrogen should be in the root zone by approximately 500 GDD. Based on the projected GDD, spring only nitrogen program this nitrogen should be applied by mid-May. If 30-50 units of nitrogen applied last fall, spring applied nitrogen can be delayed into next week without a yield consequence. However, if field conditions permit the sooner the spring nitrogen is applied the quicker the nitrogen will get to the perennial ryegrass rooting zone.

## **PEST MANAGEMENT**

The yellow flower of common dandelion was observed on the south side of a building late last week. This is a reminder that winter annual weeds move quickly from the rosette stage to bolting and full bloom. If a broadleaf herbicide was not applied last fall ryegrass these fields should be scouted to determine the infestation levels of winter annual weeds.

What can be done to control volunteer wheat in perennial ryegrass seed fields? Depending upon the year, volunteer wheat in perennial ryegrass fields will range from an isolated problem to a heavy infestation across the entire field. Time will tell what the 2023 season has in store for volunteer wheat in perennial ryegrass fields. If field scouting indicates a control measure is warranted, Callisto applied early postemergence has good activity on volunteer wheat. U of MN research has indicated good tolerance of perennial ryegrass to Callisto at 3 to 4 oz/acre applied postemergence. A double additive crop oil or MSO with 28% nitrogen will improve volunteer wheat control compared to a single additive. Additional information can be found at the link below.

[Seed Production Research - Progress Reports | Turfgrass Science \(umn.edu\)](#)

Next week's newsletter will be released on May 16<sup>th</sup>.